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"God has lent us the earth for our life. It is a great entail. It belongs as much to those who are to come after us as to us and we have no right by anything we do or neglect, to involve them in any unnecessary penalties, or to deprive them of the benefit which was in our power to bequeath." - Ruskin

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Field office requests for loans should be submitted by letter through the Regional Office libraries. Complete citations, together with source of references, should always be included.

Washington office requests should be submitted on Form SCS-405, which will be supplied by the Library on demand.

Mildred Benton
Librarian

PERIODICAL ARTICLESAerial Photography

Abrams, Talbert. Mapping airplanes and their future. Mil. Engin. 31(178): 258-261, illus. July/Aug. 1939.

A discussion of aircraft for aerial photography, surveying, sketch mapping, reconnaissance and observation for the past, present and future.

Burks, G.F. A vegetation inventory from aerial photographs. Photogrammetric Engin. 5(1):30-42, illus. Jan/Mar. 1939.

Robinson, C.S. Modern equipment and methods in aerial mapping. Photogrammetric Engin. 5(1):43-45. Jan/Mar. 1939.

Surveys and mapping in the United States. A joint letter of the Secretary of War, Secretary of Commerce, and Secretary of the Interior. Mil. Engin. 31(178):269-271, illus. July/Aug. 1939.

"This joint letter was transmitted, in response to Senate Resolution Number 87, a report concerning additional surveys and mapping in the United States.

Agriculture

Hanson, H.C. Ecology in agriculture. Ecology 20(2):111-117. April 1939.

Address delivered at meeting of Ecological Society of America, Richmond, Va., Dec. 23, 1938.

Sarle, C.F. Meteorology and agriculture. Amer. Met. Soc. Bull. 20(4): 154-160. April 1939.

"References," p. 160.

Paper given at Kansas City meeting, June 1938, of American Meteorological Society.

Discusses the possibilities of a coordinated attack on the problems arising in the field of agro-meteorology.

Dams

Moore, N.R. The Sardis Dam and Reservoir. Design features of \$15,000,000 flood control project in northwestern Mississippi. Civil Engin. 9(6): 349-352, illus. June 1939.

Engineering in Soil Conservation

Hillman, V.R. Engineering in soil and water conservation. Agr. Engin. 20(5):197-198, illus. May 1939.

"Presented before the Southern Section of the American Society of Agricultural Engineers, at New Orleans, La., February 1, 1939. Mr. Hillman (Mem. A.S.A.E.) is area conservationist, Soil Conservation Service, U.S. Department of Agriculture."

Evaporation

Thornthwaite, C.W. and Holzman, Benjamin. The determination of evaporation from land and water surfaces. U.S. Mo. Weather Rev. 67(1):4-11, illus. January 1939.

"Literature cited," pp. 10-11.

Wilson, J.D. Evaporation studies III. Ten years of evaporation at Wooster as measured with black and white atmometers. Ohio Agr. Expt. Sta. Bimo. Bul. 24(197):11-25, illus., tables. Mar/Apr. 1939.

Farm Forestry

George, E.J. Farm windbreak - handling trees to withstand drought conditions. N. Dak. Agr. Expt. Sta. Bimo. Bull. 1(5):11-14, illus. May 1939.
The author is assistant silviculturist, Northern Great Plains Field Station, Mandan, N. Dak.

Preston, J.F. The approach to farm forestry. Jour. Forestry 37(5): 367-370. May 1939.

"Mr. Preston has attempted to analyze the various factors contributing to the present condition of farm woodlands. He proposes the establishment of a thousand or more cooperative demonstration farm woodlands from which yield and financial data would be collected for twenty-five years or more. If the returns from farm woodlands are what foresters at least hope they are these demonstration woodlands would go far in making a realistic approach to the problem possible."

Floods and Flood Control

Bernard, Merrill. Hydro-meteorological aspects of flood control and forecasting problems. Amer. Met. Soc. Bull. 20(4):160-165.

Ferguson, H.B. Flood control of the Mississippi river. Historical review. Civ. Engin. 9(6):353-354. June 1939.

Johnson, C.F. Probability of recurrence of Ohio river floods. Pub. Works 70(4):9-11, illus., tables. April 1939.

"Probability curve determined by use of probability paper and skew curve principle indicates higher floods to come in the Ohio River valley. Application of this principle and the results of computations are given..."

Grass and Grass Seeds

Codd, L.E.W. Grass-breeding and the production of seed. Selection and improvement of Africa's many valuable species at the Prinshof station. Superior characteristics of home-grown strains. Farmer's Weekly 57: 30-31, illus. Mar. 22, 1939.

McManus, R.C. Cashing in on grass farming. Country Home 63(8):11-12, 29. August 1939.

"An absorbing account of a new agricultural movement which is sweeping the country from coast to coast, saving our soil, cutting feed costs and vastly increasing profits."

Nicholson, Arnold. Grassland farms arrive. Country Gent. 109(6):13, 62, illus. June 1939.

"Grass now emerges for two reasons. We have begun to develop improved strains of grass, pasture and meadow maintenance systems, and harvesting techniques to produce nutrient-rich yields; and most important, we have found ways to preserve the grass with practically no loss of feeding value. The accent of Federal farm programs on soil-conserving crops has had its effect, but the economies of making feed with an occasional fertilization or harrowing of fields, and safely storing the rich produce in a silo, are more important."

The experience of Dr. C. M. A. Stine at Foxden Farm, near Newark, Delaware indicates the importance of and interrelation of seed, sod management, storage and feeding in a successful grassland program.

Whitman, Warren, Stoa, T. E. and Hanson, H. C. Seeding grasses and legumes for pasture and hay. N. Dak. Agr. Exp. Sta. Bimo. Bull. 1(4):25-29. March 1939.

Suggestions pertain to North Dakota conditions.

Insects and Soil Conservation

Bishopp, F. C. Insects and conservation. Soil Conserv. 4(12):293-295, illus. June 1939.

"This article presents merely an indication of the many ways in which insects, one of the most destructive forces with which man must contend, may affect a conservation program."

Harris, K. L. Soil conservation versus insect control. Ent. Soc. Wash. Proc. 41(1):20-26. January 1939.

"Bibliography," pp. 25-26.

Irrigation and Drainage

Peterson, William. Improving irrigation on Utah farms. Reclam. Era 29(5):109-110, table. May 1939.

Tells of the development under AAA supervision of an orderly method of applying water which appears to be economical from the standpoint of making the highest use of water available and preserving the top soil. Tests indicate that the process has resulted in a minimum of washing and preserved fertility of the soil.

Land Acquisition

Lee, F. W. The economic significance of Government land purchases in New Mexico. New Mex. Stockman 4(5):10-11, 19. May 1939.

Sherman, C. B. Making land do its best. South. Agr. 69(6):10, illus. June 1939.

The philosophy of land buying by the government as interpreted from plans and progress made under the direction of Dr. L. C. Gray.

Land Utilization

Barraclough, K. E. County land use planning. Jour. Forestry 37(6):460-461. June 1939.

"The U. S. Department of Agriculture's program of county land use

planning is one that is little understood by foresters generally. The results and their application to land utilization may vitally affect the trend of forest policy, not only as regards farm woodlands but public forests and public regulation of private forest management as well. The author briefly describes the program and indicates how it may function to obtain better coordination of public forestry activities."

Brink, Wellington. New patterns of land use in two southern states. Soil Conserv. 4(12):273-293, illus. June 1939.

A report on the working out of the soil conservation district idea in Arkansas and Georgia.

Land-use planning for California? Commonwealth 14(50, pt. 2):191-231. Dec. 13, 1938.

Condensed version of discussion and papers presented at meeting of the Agriculture section, Commonwealth Club of California. Includes record of hearings on land-use planning by Section of agriculture; Planning the future of California lands, by H. E. Erdman; A general view of land planning, by M. K. Bennett; Is California ready for agricultural land-use planning, by Alex Johnson.

Roberts, E. D. G. The land utilization program in the southern great plains. N. Mex. Bus. Rev. 7(3):170-175. July 1938.

Address, meeting of the Southwestern Division of The American Association for the Advancement of Science, Albuquerque, New Mexico, April 25, 1938.

Weeks, David and Josephson, H. R. Economic criteria for classifying non-urban land according to probable best use. Jour. Farm Econ. 21(2): 419-434. May 1939.

Several economic criteria for the classification of land into categories are discussed for the purpose of indicating their usefulness as an economic basis for: 1. Locating appropriate margins between different uses of land or between different combinations of uses. 2. Judging the optimum geographical limits within which given land use policies may be applied.

Orchard Management

Bregger, J. T. Contour planting and terracing as a basis for soil and water conservation in orchards. Soil Conserv. 4(11):256-259, illus. May 1939.

Gray, S. D. The importance of orchard fertilization in northeastern agriculture. Potash Jour. 3(3):3-9, illus. May/June 1939.

"Soil erosion in orchards is a serious problem. Fruit growers as a class have been very careful about selecting favorable sites for their orchards and vineyards, at least from the standpoint of good soil and air drainage. This very situation, especially when accompanied by prolonged cultivation so common in the case of certain stone fruits, has brought about an excessive erosion problem.

"The trend in orchard practices in the Northeast today is quite

definitely towards sod culture or the use of cover crops. Clean cultivation and the use of nitrogen only are rapidly giving way to a sander soil fertility program, one involving the use of phosphoric acid, potash, and lime in addition to nitrogen. It is this type of orchard fertility program, based on careful consideration of the nutrient needs of the tree, the soil, and the cover crop that Northeastern orchards require, and which offers a large and interesting field for intelligent fertilizer use."

Puerto Rico

Axtmayer, J.H., Hernández, G.R., and Cook, D.H. The nutritive values of some forage crops of Puerto Rico. II. Legumes, grasses and a mixture. Univ. Puerto Rico Jour. Agr. 22(4):455-481, tables. October 1938.

"Bibliography," p. 462.

"The studies reported in this paper are reports of investigations which aim to gather information concerning the nutritive values of forage crops used in Puerto Rico, or which could be used, after a complete study of their nutritive values. This would be especially valuable in the case of new crops used in soil conservation, and we believe that studies of this type will help materially in encouraging the planting of good forage crops, thus reducing the cost of production of milk and other animal by-products."

Bonnet, J.A. The nature of laterization as revealed by chemical, physical, and mineralogical studies of a lateritic soil profile from Puerto Rico. Soil Sci. 48(1):25-40, tables. July 1939.

"References", pp. 39-40.

Gracia, Samuel. Soils, soil conditions, and their relation to erosion-control practices, Cayey area, Puerto Rico. Soil Conserv. 4(11):271-272, illus. May 1939.

Molinari, O.G. Observations on possible erosion control grasses of Puerto Rico. Soil Conserv. 4(11):267-270, illus. May 1939.

Oliver, Joaquin. Soil erosion and its control at La Plata, Cayey area. Soil Conserv. 4(11):265-267, illus. May 1939.

Picó, Rafael. Land tenure in the leading types of farming of Puerto Rico. Econ. Geogr. 15(2):135-145, illus. April 1939.

"The future of Puerto Rico's land tenure system seems to trend toward greater decentralization of management, further subdivision of land and elimination of absentee ownership."

Note: "Part of the material used in the article, especially the illustrations, is taken from the author's unpublished dissertation The Geographic Regions of Puerto Rico presented at the School of Geography of Clark University as partial fulfillment of the requirements for the Ph.D. degree."

Rainfall and Precipitation

Artificial rain. Farmer's Weekly (South Africa) 56:1783. Mar. 8, 1939.

"According to the Argentine journal 'La Res' a report from Santiago

del Estero says that on December 19 a laboratory was installed in the agricultural school of the Province for the purpose of carrying out certain experiments for the artificial production of rain by means of the captation(sic) of electro-magnetic waves. The process is the invention of Engineer Juan Baigorri Velar who is being assisted in the experiments by the Chief of the Agricultural Department of the Central Argentine Railway, Engineer Hugo Miatello."

Range and Pasture Management

Arcs, F.N. Range forage utilization. Adherence to proper use preserves good ranges and restores depleted ones. Amer. Hereford Jour. 29 (23): 39, illus. Apr. 1, 1939.

Statements are based on studies at Jornada Experimental Range, near Las Cruces, N.M.

Formerly destructive water now builds soil. Amer. Cattle Producer 21(1): 6-7, illus. June 1939.

"The destructive force of water, once a major problem on the 3R Ranch in Pueblo County, Colorado, not only has been curtailed through the use of soil and water conservation practices, but the same water now is being used to heal the severe erosion it had caused and to improve the range generally."

Watkins, W.E. Monthly variation in carotene content of two important range grasses, *Sporobolus flexuosus* and *Bouteloua eriopoda*. Jour. Agr. Research 58(9):695-699, diag. May 1, 1939.

"The monthly carotene content of two important southern New Mexico range grasses, black grama and mesa dropseed, has been presented. Both grasses are moderately high in carotene during the growing season. The mesa dropseed loses all of its carotene soon after the fall freezes and the growing season. The black grama grass, whose upright stems remain green for a distance of from 4 to 6 inches of their base throughout the winter, contain an amount of carotene that seems to be ample to satisfy the vitamin A requirements of range cattle."

Run-off

Clark, C.O. Analysis of run-off characteristics. Amer. Soc. Civ. Engin. Proc. 65(5):884-886. May 1939.

Discussion on paper of same title by Otto H. Meyer appearing in November 1938 Proceedings.

Discker, E.G. A method of measuring runoff velocity as related to soil movement between terraces. Agr. Engin. 20(5):195-196, diagrs. May 1939.

"Presented originally before the Southern Section of the A.S.A.E., meeting in conjunction with the Association of Southern Agricultural workers, at Nashville, Tenn., February 4, 1937. Revised and brought up-to-date for publication in Agricultural Engineering. Mr. Discker (Mem. A.S.A.E.) is assistant professor of agricultural engineering Alabama Polytechnic Institute, and assistant agricultural engineer, Alabama Agricultural Experiment Station."

Safford, A.T. Rainfall and run-off of New England. Boston Soc. Civ. Engin. Jour. 26(2) (Sect. 2): 1-101, figs., tables. April 1939.

"This paper is the result of an effort by the writer to re-study the data on Rainfall and Runoff of New England and bring up to date the report, made to the Boston Society of Civil Engineers, at the annual meeting March 16, 1921, and published in the Journal of the Society for October, 1922. The figures obtained for the subsequent 15 years have been added to that material and the conclusions of the former report tested out from the old and new material, and strengthened or questioned; and certain new conclusions drawn which are offered for discussion."

Sedimentation and Silt

Inglis, C.C. A theory of silt transportation. Amer. Soc. Civ. Engin. Proc. 65(5): 874-876, table. May 1939.

Discussion on paper of same title by W.M. Griffith appearing in May 1938 Proceedings.

Otto, G.H. and Rouse, Hunter. Wind-tunnel classifier for sand and silt. Inexpensive apparatus sorts granular materials for laboratory use. Civ. Engin. 9(7): 414-415, illus. July 1939.

Shelterbelts

The influence of shelterbelts on the eco-climate of areas adjacent to them. Forestry Abs. 1(1): 8-11. 1939.

"The subject of forest influences is becoming so important nowadays in various parts of the world that the following summarized account of some Russian research on shelterbelt effects should be of interest to many foresters."

Soil Conservation. Study and Teaching.

Rohan, B.J. and Barloe, Guy. A program for conservation education in the junior high schools. School Sci. and Math. 39(5): 408-415. May 1939.

The authors are superintendent of schools, and principal, Wilson Jr. High schools, Appleton, Wisconsin, respectively.

Soil Erosion and Control. Foreign Countries.

Coster, Ch. Surface run-off and erosion in Java (Bovengrondsche afstrooming en erosie op Java) Landbouw 14(8/9): 457-572. Aug/Sept. 1938.

Article in Dutch.

Account of experimental work on erosion in Java.

de La Valette, John. Economic and social aspects of land reclamation in Italy. Royal Soc. Arts Jour., London, 87(4514): 708-728, illus. May 26, 1939.

The depreciation of soil productivity(in Australia). Bank of New South Wales.Circ.9(1):1-9. Jan.9,1939.

I.Two conflicting influences.II.The trend of output from primary industries.III.How deterioration occurs.IV.The extent of soil erosion in areas of high rainfall.V.The problem in the pastoral areas.VI.Plans for soil conservation.

Also in Queensl.Agr.Jour.51(4):403-414,illus. Apr.1,1939.

Dust bowls of the empire. Round Table 114:338-351. March 1939.

I.How soil erosion happens.II.Soil erosion in the empire.III.The problem in Africa.IV.Wider issues.

Future compulsory erosion control in Rhodesia.Umtali farmers want prompt survey carried out. Farmer's Weekly 57:69. Mar.22,1939.

Lists suggestions involving most important means of erosion control which have been presented to the Natural Resources Commission by the Soil Conservation Advisory Council for Mashonaland.

Gorrie,R.M. Current problems in erosion control. Indian Forester 65(5):254-264,illus. May 1939.

Notes on experience in erosion control in Hoshiarpur District,India.

Hardy,F. Soil erosion in St.Vincent,B.W.I. Trop.Agr.,Trinidad,16(3): 58-65,illus. March 1939.

"References;"p.65

The article is divided into parts as follows:(1)Erosion factors;(2) The chief soil-types of St.Vincent;(3)Evidence of soil erosion in St.Vincent;(4)Erosion problems in St.Vincent.

Joachim,A.W.R. Summary of legislation or other governmental action on soil conservation in various countries. Trop.Agr.,Ceylon,92(4): 224-233. April 1939.

Summaries given for the following:United States of America,Australia, British Somaliland,Canada,Dutch East Indies,France,Italy,Japan,Kenya, Malta,Nigeria,Nyasaland,Rhodesia,Union of South Africa,Straits Settlements,Tanganyika,and Uganda.

Joubert,J.J. Deterioration of our Karroo rivers. River works as part of the soil-erosion scheme. Farming in So.Africa 14(157):137-141, illus. April 1939.

Contents:The Rivers of Former Days;Effects of Deterioration;Different Types of River Works;Mountain Streams and Stone Walls;Along Other Rivers;Diversion of Flood-water;Sharp Bends in Rivers;Trees in River Beds;Vleis and Swamps;Co-operating with Nature.

McDonald,A.H.E. Soil fertility and tilth in relation to soil erosion. Agr.Gaz.N.S.Wales 50(3):117-120,illus. Mar.1,1939.

"Soil erosion almost certainly can be regarded as a symptom of fundamental changes in the chemical and physical nature of soils and these changes must be considered in formulating any programme for the restoration of soil to a condition of positional equilibrium. In South Africa,where the problem has been studied for many years, this is recognized and the authorities there are becoming increasingly alive to the fact that grazing control,veld management and overstocking

should receive prior consideration to reclamation work, and more attention is now being given to the former."

Malan, A.H. The making of drinking dams, for watering stock as a measure against soil erosion. Farming in So. Africa 14(157):158-159. April 1939.

Mutton, A.F.A. and Adams, A.F. Land forms, settlement, and land utilization in the southern Allgäu. Econ. Geogr. 15(2):169-178, illus. April 1939. Refers to conditions in Germany.

Smythies, E.A. Erosion and floods. Problems of soil and water conservation in the United Provinces. Indian Forester 65(3):179-183. March 1939.

Stockdale, F. Soil conservation in the tropics. Landbouwk. Tijdschr. Wageningen 51(625):300-311. June 1939. Dutch summary.

Whan, Wei-yen. Untersuchungen über das vertrocknen junger holzpflanzen als grundlage für die odlandaufflorstungen in China (Investigations of the withering of forest nursery trees as the basis for the afforestation of waste land in China. Ztschr. Weltforstw. 5(10):715-744, illus. July 1938. Article in German.

"Tests of the relation between the withering and dying of seedlings of *Picea excelsa*, *Pinus silvestris*, *P. massoniana*, *Alnus incana* and *Alcurites montana* and the suction power of various kinds of soil. Soil moisture at the wilting point was 6-7 times greater with loam than with sand, and 4 times greater with humus than with loam." -- Soils and Fert. 2(2):65. 1939.

Soil Erosion and Control. United States.

Barton, T.F. Some geographic aspects of soil erosion in Illinois. Ill. Acad. Sci. Trans. 31(2):156-160. December 1938.

Bennett, H.H. The land and the people. Sci. Mo. 48(6):534-546, illus. June 1939.

Brush windrows check erosion. Engin. News-Rec. 123(1):70, illus. July 6, 1939.

"When high fills are made for new roads on the state highway system in California, if the work is in a location where heavy rains occur, brush cuttings are used to reduce embankment erosion until such time as the new slope can be protected by a grass growth. As embankments are now constructed by rolling the fill material in successive layers, it is possible to place layers of freshly cut brush at intervals as the fill is built. These brush layers are called wattles; a slope so treated is wattled."

Finch, H.A. Earth-cement mixture in sacks used for river-bank revetment. Engin. News-Rec. 122(19):659, illus. May 11, 1939.

Illustration depicts bank revetment made with earth-cement mixture in sacks, which is being used to check erosion at Fort Brown, Tex.

Henderson, D.D. New type of metal ditch check stops erosion of Missouri land. Highway Mag. 30:116-117, illus. May 1939.

Leopold, Aldo. The farmer as a conservationist. Amer. Forests 45(6): 295-299, 316, 323, illus. June 1939.

"The pattern of the rural landscape, says the author, should have a certain wholeness in order to prove that conservation pays certain dividends. Land must be devoted to woods, marsh, pond, prairie or just scenery to meet economic or semi-economic needs and make the picture complete."

Lowdermilk, W.C. Across North Africa with a soil conservationist. Amer. Forests 45(7):343-345, 384, illus. July 1939.

"In seven weeks..., the author, traveled nearly 7,000 miles - across Algeria, Tunisia, Lybia; into Egypt, Palestine, following the route of the Children of Israel. A brief account of this journey is contained in a letter to H.H. Bennett, chief of Soil Conservation Service, which is published here, in part - as an introduction to a series of two articles which Dr. Lowdermilk has written for American Forests."

Metal wall stops erosion near cradle of baseball. Stream encroaches on private estate at Cooperstown, N.Y., famed in literature and as the site of baseball centennial. Highway Mag. 30:127-130, illus. June 1939.

Steavenson, H.A. and Dodge, A.F. Handling sandbar willow cuttings. U.S. Soil Conserv. Serv., Upper Miss. Valley Reg. Des Moines, Iowa. Prog. Exch. Tech. Suppl. March 1939, leaves 1-4.

Soil Studies

Bouyoucos, G.J. Effect of organic matter on the water-holding capacity and the wilting point of mineral soils. Soil Sci. 47(5):377-383. May 1939.

"References," pp. 382-383.

Boynton, Damon. Capillary tension as a measure of the pore space unoccupied by water in some dense orchard subsoils. Soil Sci. 47(5): 347-352, diags. May 1939.

"References," p. 352.

"On the basis of this study, it is concluded that the tensiometer can be used with caution to estimate the pore space unoccupied by water in these dense subsoils. Since variations occur in soil texture and structure, the calibrations must apply only to apparently uniform layers in restricted areas and even then are subject to the possibility of error. Although the range of pore space covered by the tensiometer is small, it seems possible that the most critical range is covered, insofar as the aeration of these soils is concerned."

Moser, Frank. The adaptability of rapid chemical tests for use in determining the nutrient needs of South Carolina soils. Jour. Amer. Soc. Agron. 31(3):188-199, tables. March 1939.

"Literature cited," p. 199.

Wood, H.J. The agricultural value of California soils. Geogr. Rev. 29(2):310-313, illus. April 1939.

Stream Flow

Lloyd, D. Stream flow. Frequency distribution of river flows in months. Water and Water Eng. 41(504):3-6. January 1939.

Application of statistical theory to analysis of streamflow data; coefficient of variation; graduation of frequencies; probability table for river Thames discharge. Bibliography.

Youngquist, C.V. Ohio stream flow. Channel-storage relations from stream-flow hydrographs. Ohio Engin. Expt. Sta. News 11(2):12-13, illus. April 1939.

Torrey Pine

Hunt, L.O. Torrey pine. Jour. Forestry 37(3):267-268. March 1939
Information so far found by the Soil Conservation Service as to the number of seeds per pound, the viability of the seed and season in which the seed matures.

Vegetational Changes

Judd, B.I. and Jackson, M.L. Natural succession of vegetation on abandoned farm lands in the rosebud soil area of western Nebraska. Amer. Soc. Agron. Jour. 31(6):541-557, tables. June 1939.

"Literature cited," pp. 556-557.

Summary: "This investigation deals with the natural succession of vegetation on previously cultivated, abandoned farm lands in an arid region..."

Nelson, E.W. Natural rehabilitation of abandoned cropped lands. Jour. Colo.-Wyo. Acad. Sci. 2(4):23. April 1938.

Abstract of paper presented at eleventh annual meeting Colorado-Wyoming academy of science.

"After 6-10 years valuable perennial grasses begin to appear on abandoned crop lands in Colorado. Under present conditions of grazing it probably requires 80-100 years to restore the original grama grass vegetation cover." F. Ramaley in Biol. Absts. 13(1):126. January 1939.

Weaver, J.E. and Albertson, F.W. Major changes in grassland as a result of continued drought. Bot. Gaz. 100(3):576-591, illus. March 1939.

"Literature cited," p. 591.

Reports conclusions from comprehensive research over an area of 60,000 square miles, including the eastern one-third of Nebraska, the western one-third of Iowa and adjacent areas in the four neighboring states.

Whitfield, C.J. and Fly, C.L. Vegetational changes as a result of furrowing on pasture and range lands. Jour. Amer. Soc. Agron. 31(5):413-417, illus. May 1939.

Water Conservation

Barrows, H.H. Organization of water resources planning. Jour.Amer.Water Works Assoc.31(3):462-480. March 1939.

"A paper presented to the Association of Western State Engineers at Phoenix, Arizona, December 9, 1938.

Gordon, H.H. The relation of water facilities to agricultural relief and adjustment. Agr.Engin.20(5):190,196. May 1939.

"Presented before the Soil and Water Conservation Division at the fall meeting of the American Society of Agricultural Engineers, at Chicago, December 1, 1938. Mr. Gordon is assistant director, rural rehabilitation division, Farm Security Administration."

Moore, R.E. Water conduction from shallow water tables. Hilgardia 12(6):383-426, illus. March 1939.

"Literature cited," pp.425-426.

National water policy. Committee report. Jour.Amer.Water Works Assoc. 31(3):459-461. March 1939.

"A report submitted by the Committee on National Water Policy. Members of the Committee are: Louis R. Howson, Consulting Engineer, Hinsdale, Ill.; Theodore A. Leisen, General Manager, Metropolitan Utilities Dist., Omaha, Neb.; Samuel B. Morris, Dept. Civil Eng., Stanford University, Calif.; Howard S. Morse, General Manager, Indianapolis Water Co., Indianapolis, Ind.; and Abel Wolman, Professor San. Eng., Johns Hopkins University, Baltimore, Md. This report was approved by the Board of Directors of the A.W.W.A. at its annual meeting in New York on January 18, 1939."

Wildlife Conservation

Academic and professional training in wildlife work. Jour.Wildlife Mangt.3(2):1 56-161. April 1939.

"Prepared by Aldo Leopold, Professor of Wildlife Management, University of Wisconsin, with the assistance of, and endorsed by, the other members of the Committee on Professional Standards of the Wildlife Society, of which Frank C. Edminster, Soil Conservation Service, Upper Darby, Penn., is a member."

Deck, R.S. Planting for wildlife. Country Life and the Sportsman 74(6): 52-53, 107-109, illus. October 1938.

Fox, A.C. Annual crop buffer windbreaks. Natural wildlife feeding stations beneficial to birds. Dakota Farmer 59(5):96-97, illus. Mar. 11, 1939.

Describes the "annual buffer" which was developed in 1936 by a cooperator in the Park River SCS project area of North Dakota.

O'Connell, F.B. Shelter belts for wildlife. Outdoor America 4(2): 4-5, illus. December 1938.

BOOK AND PAMPHLET NOTES AND ABSTRACTS

Beals, Carleton. American earth. The biography of a nation. 500pp.
New York, J.B. Lippincott company, 1939. 281.12 B36
Bibliography, pp. 471-475.

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